THE PLAINS ANTHROPOLOGIST

FRANKLIN FENENGA, EDITOR NUMBER 7, OCT., 1956

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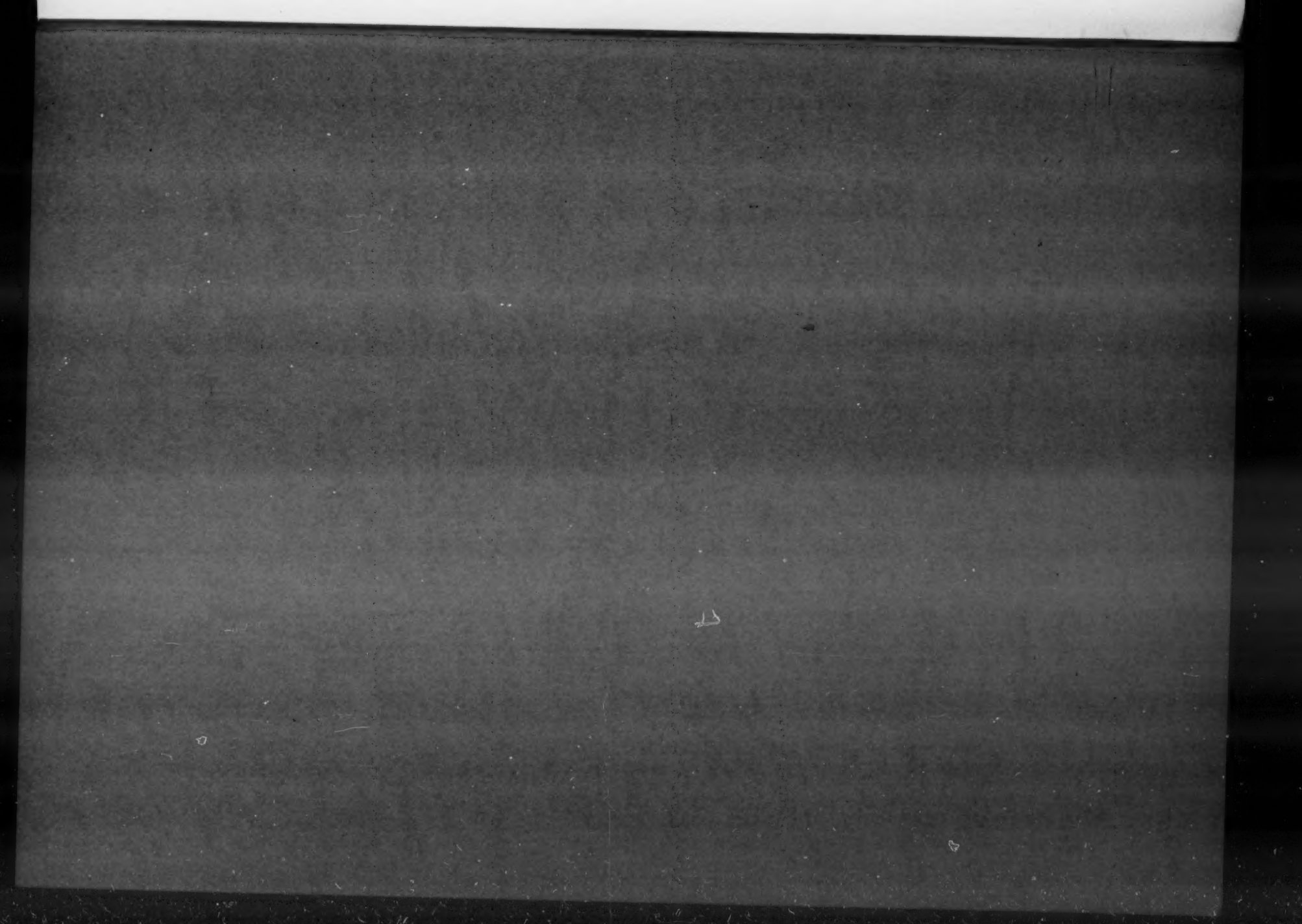
A MEDIUM FOR THE PUBLICATION OF THE RESULTS OF ANTHROPOLOGICAL AND RELATED RESEARCHES IN THE PLAINS



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Franklin Fenenga, Editor

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* Material for publication, books for review, questions and subscriptions ($2.00 per year) should be addressed to the editor, c/o Laboratory of Anthropology, University of Nebraska, Lincoln, Nebraska.

Editor's Notes

There have been a number of personnel changes in our area most of which were effective as of the beginning of the academic year in September, 1956: Warren Caldwell and Harold Huscher have become members of the staff of the Missouri Basin Project of the Smithsonian Institution; Raymond Price has left the Nebraska State Historical Society for the National Park Service Office in Washington, D. C.; Alex Krieger has moved from the University of Texas to the Riverside Museum in California; Edward I. Fry and Franklin Fenenga have joined the teaching staff at the University of Nebraska; Fred Wendorf has moved from the Laboratory of Anthropology at Santa Fe to Texas Technological College at Lubbock; E. Mott Davis has gone from the University of Nebraska to the University of Texas; and James Shaeffer has left the National Park Service for the University of Oklahoma.

Other personnel news would include the fact that Richard Forbis is completing a study of the archeological materials from Signal Butte through the benefit of a Wenner-Gren foundation grant, John M. Roberts is on leave from the University of Nebraska for a year at the Center for Advanced Studies at Stanford University, Carlyle Smith and William Mulloy have returned from a year in Polynesia with Thor Heyerdahl, and Wesley R. Hurt is en route home from a long season of excavation in the Lagoa Santa region of Brazil.

* * *

There are some new publications of note: Archeological Survey of the Big Sandy Reservoir Area, Southwestern Wyoming by E. Mott Davis has just appeared as Notebook No. 2 of the Laboratory of Anthropology of the University of Nebraska; The Mortlach Site by Boyd Wettlaufer, is Anthropological Series No. 1 of the Department of Natural Resources, Regina, Saskatchewan; and I have not seen a copy, but I understand the University of Michigan has published Albert Spauldings account of the Arzberger Site.

* * *

Two numbers will comprise the complete issue of the Plains Anthropologist for 1956. Reference to the financial statement on page 9 will indicate one of the reasons for this slim output. We are also short of suitable material for publication. It is my earnest hope that we will be able to print more than 150 pages in 1957.

SETTLEMENT PATTERNS OF THE REDBIRD FOCUS*

W. Raymond Wood

The excavations at 25HT3, an earth lodge village on the Niobrara River in Holt County, Nebraska, allow a rather complete picture to be drawn of the manner in which the occupants of the site utilized the site area. The dwellings, their arrangement, and the nature and disposition of other features pertaining to community life are readily observable (Fig. 1). It is possible to speculate on cultural institutions that might be reflected in the configuration of the material remains. The complex at 25HT3 may be identified with a historic tribe with more certainty if something is known of the social organization of the archeological culture. Archeological data may also yield evidence of change through time of the settlement patterns and related phenomena of a given tribe. The description and analysis of the settlement pattern at 25HT3 permits several inferences concerning the community life of the occupants of the village, and comparison with other earth lodge and camp sites of the related complex.

Four excavated earth lodge villages comprise the type sites of the Redbird Focus of the Pahuk Aspect. These are 25HT3, 25HT2, 25KX4, and 25KX9. A fifth site, 25KX2, is an extension of the village designated as 25KX9. Sites 25HT3 and 25HT2 are also known as the Redbird sites, and 25KX2 and 25KX9 are known as the Minarik (sometimes Minoric) sites. These sites are clustered near the mouths of Ponca Creek and the Niobrara River, in Holt and Knox counties, north central Nebraska (Wood, 1956).

The Focus is characterized as an earth lodge complex, the people subsisting on horticulture, hunting, and gathering, with a material culture similar to, but distinct from, those complexes which seem to be antecedent to the historic Pawnee and Arikara. Pottery and other artifacts are similar to those reported for the La Roche Focus (Hurt, 1952), and for the Lower Loup Focus (Dunlevy, 1936). The latter Focus is identified as Pawnee (Wedel, 1938). The presence of a few items of trade goods at one of the sites, 25KX9, suggest that this site may be approximately dated at 1700 A. D. Other sites of the Focus, however, lack association with trade goods, and may be earlier. Sites of the Focus are not common, and the relatively low artifact yield from the sites suggests that the Redbird Focus population did not occupy the area in the vicinity of the mouth of the Niobrara River for any great length of time; certainly one hundred years is the maximum span

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* Paper delivered at the 66th Annual Meeting of the Nebraska Academy of Sciences, in Lincoln, Nebraska, April 21, 1956. The writer wishes to thank Professors John L. Champe, E. Mott Davis, Franklin Fenenga, and John M. Roberts for their assistance in the writing of this paper.

of occupation for these villages. The data, then, suggest that the Focus may be dated between circa 1600 and 1700 A. D. This time span falls within the period termed the Late Ceramic Period in the Central Plains (Champe, 1946: 90).

Two site types are present in the Focus. Four semi-permanent earth lodge villages, 25HT3, 25HT2, 25KX4, and 25KX9, are on large streams which have wide, fertile terraces adequate for horticultural pursuits. An unexcavated earth lodge village, 25HT12, is in a similar setting. Temporary camp sites are along smaller streams and tributaries to the west and south of the earth lodge villages.

Site 25HT3 is on a high bluff overlooking the Niobrara River valley, on the south side of that river ten airline miles west of its mouth. The top of the bluff slopes gently toward the Niobrara, then pitches steeply into the river valley. The village is located on this gently sloping plain, with a broad view of the Niobrara valley, and the high tableland extending to the south of the site. The elevation of the site, one hundred feet above the Niobrara flood plain, would be advantageous in defending the village from attack, but no other defensive features are noted.

Five earth lodges are distributed over most of the three acres of available level terrain, from 30 to 130 feet apart. The houses are circular, with the house floor built nearly flush with the ground surface. There is no evidence that floors were prepared in shallow pits in the earth, as reported for several Lower Loup Focus houses (Dunlevy, 1936: 157-167). Each of the houses had a central fireplace, and frequently had auxiliary fireplaces. Around the central fireplace were four or six center posts, and the wall was composed of closely set vertical posts, with an entrance passage extending to the east or southeast. The two houses in the south part of the site faced away from the Niobrara River and overlooked the valley of Redbird Creek; the three houses in the north part of the site faced east, affording a view down the Niobrara River valley. It may be noted that the entrances faced away from the prevailing wind; were so directed as to benefit from early morning sunlight; and were so placed that a view from the entrance commanded a broad view of the surrounding stream valleys.

Cache pits are found in the houses and outside the houses near the walls. They also occur throughout the village area, and although they are placed in no apparent order, they are consistently situated on higher points of the slope of the village area. Rain water, flowing down the slope, would not have passed in any quantity over the pits and percolated into them. In historic times, these pits were used for storage and concealment of surplus corn and household furniture, usually during the time when the group was on the seasonal bison hunts. Some of the pits at 25HT3 are as much as 140 feet from the nearest house, and would have afforded excellent protection for goods during an absence from the village.

Clusters of postholes are common near and between the houses. None of these clusters form any recognizable pattern, but they might be speculated to have provided frameworks for drying racks or some form of temporary shelter. The postholes near the houses are usually grouped south of the entrance passage. In the center of the village is a large, oval, open area which contained no pits or other features. The long axis of this area is oriented northwest and southeast. It is nearly 100 feet wide and 150 feet long. The northwest end of this plaza is a low, level depression; to the southeast the ground rises slightly, forming a small amphitheater which might have served as a community center for such activities as dances or games.

There is no evidence that the houses served any function other than as dwelling units. Family "shrines", consisting of a bison skull and other offerings occur in some Lower Loup Focus houses (Dunlevy, 1936: 160), but nothing suggesting such a feature was found at 25HT3. The population of the village is a matter of speculation, but since the houses vary from twenty-eight to forty feet in diameter, there would be room around the house perimeter for about twelve or fifteen people to sleep. On this basis the total population of the village probably did not exceed fifty to seventy-five individuals. The village does not appear to have been occupied for any great length of time, and the houses are probably contemporaneous. Some of the houses contain more posts than necessary to support the roof, and probably these houses had been partially rebuilt or reinforced. Artifacts from the site are numerous, but they are not overly abundant in view of the fact that 115,000 square feet were excavated. Refuse was dumped into abandoned cache pits, and the absence of concentrations of refuse at ground level suggests that mounded middens were not used.

At 25HT2, several houses were on a high, flat ridge west of Redbird Creek, about one-half mile south of 25HT3. The circular earth lodge excavated was forty-five feet in diameter, with an entrance to the east, and a house floor built nearly flush with the ground level. The number of center posts around the central fireplace was not distinguishable. Three interior cache pits, and four exterior pits were bell shaped or straight sided.

A circular earth lodge at 25KX4 was fifty feet in diameter, with an entrance passage extending almost due east from the northeast wall of the house. A central fireplace, three auxiliary fireplaces, and three interior pits were in the house. A concentration of stone was on the house floor, and another was west of the house; possibly these represent sweat lodges. The floor was built nearly flush with the ground level. The number of center posts was not distinguishable. The site is on the south bank of the Niobrara River, on a high level terrace four and one-half miles west-southwest of the mouth of the Niobrara River.

Site 25KX9 is on the south bank of Ponca Creek, about one and a half miles above its mouth. The village is on a level flood plain of the creek,

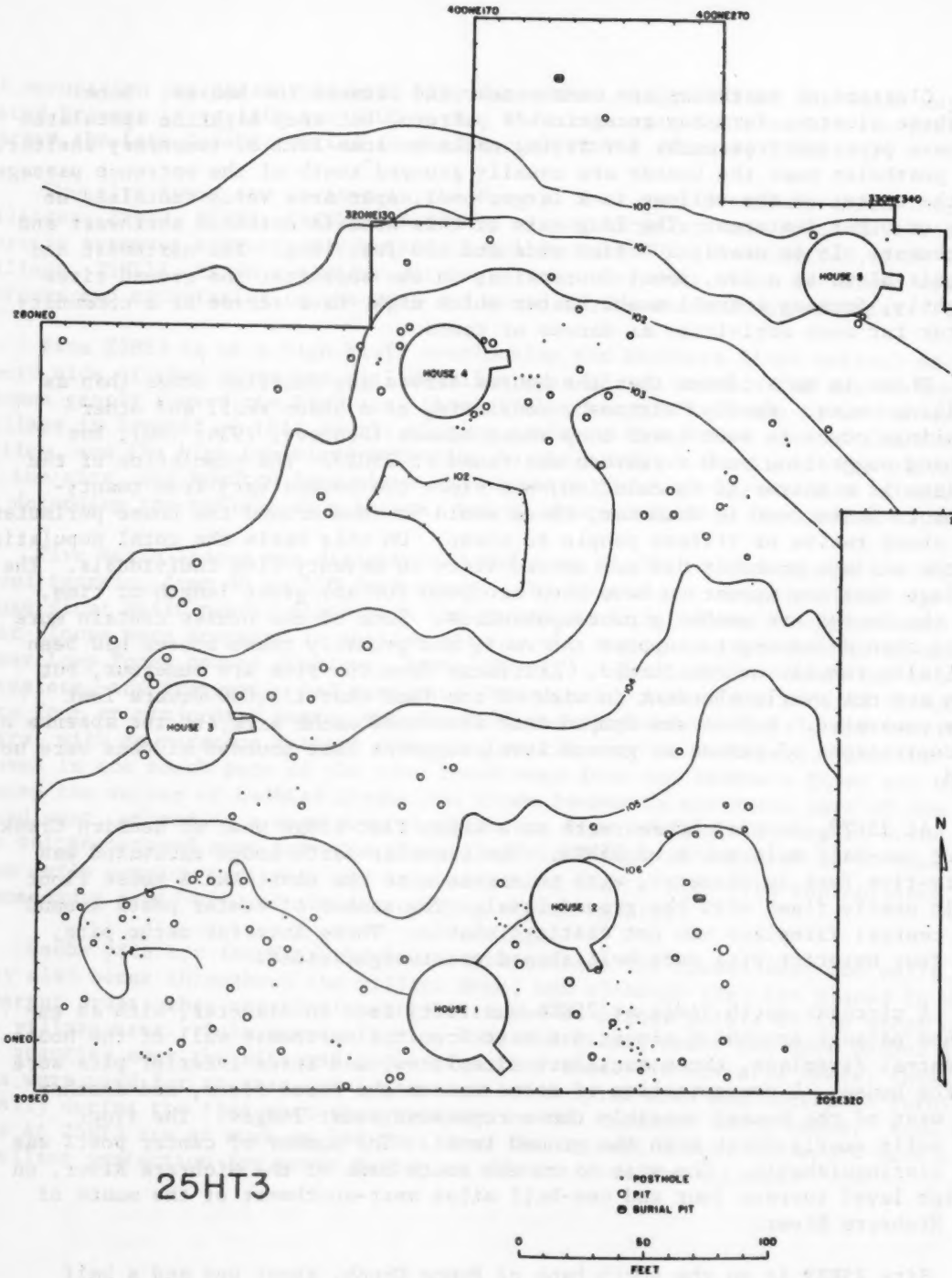
400NE170
400NE270
320NE130
320NE340
100
HOUSE 5
280NE0
290
HOUSE 4
102
103
102
210N
HOUSE 3
105
106
HOUSE 2
HOUSE 1
ONE0
280E0
280E320
N
25HT3
POSTHOLE
PIT
BURIAL PIT
0
50
100
FEET

Figure 1

with high hills a short distance to the south. The area investigated suggests that the village occupied three to four acres of land. Houses are circular, with entrances facing in a generally easterly direction. Interior and exterior cache pits are in each of the three excavated houses. The houses display more posts than necessary to support the roof, again suggesting rebuilding of the houses. Since the site is subject to flooding by Ponca Creek, it probably was not intended as a permanent village site. Possibly this is a winter village, constructed along the timbered bottomlands and occupied for only a few seasons.

Data on burials are rare. The burials of two adult females at 25KX9 were interred in a supine, extended position in pits. One of the burials was in a pit in a house floor; the other was near the wall of the same house. The arms were placed along the sides of the body, with the hands over the pelvis. A few grave goods, including trade items, were in the burial pits. A single fragmentary skull was in a pit at 25HT3; two pits containing fragmented bundle burials also at that site may associate with Aksarben Aspect materials recovered. At 25HT12, a local farmer is reported to have plowed out seven burials in the vicinity. The location of these burials could not be determined, but south of the site is a high hill which may have served as a cemetery.

Nine camp sites on the Niobrara River and on the Elkhorn River are identified as components of the Redbird Focus. Four of these sites on the Niobrara River are on small tributaries of the river, and are forty to ninety miles west of the mouth of the Niobrara. Four sites are on the Elkhorn River, about fifty miles south of the mouth of the Niobrara. These sites are on or near the banks of the Elkhorn. Pottery sherds, shell fragments, flint chips, arrowpoints, and quantities of bone fragments and end scrapers are found. At these sites evidence for structures is absent. These camp sites may well be temporary stations occupied while the people were on hunting trips; the quantity of material at some of them may indicate that they were used on successive occasions.

In summary, the following generalizations may be made of the settlement patterns of the Redbird Focus:

1. The semi-permanent earth-lodge villages of the Focus are concentrated near the mouths of Ponca Creek and the Niobrara River. The villages are small and open, with no apparent defensive features. Houses are widely spaced in no apparent order. A period of peace must have existed during the time of occupation of these villages.

2. At 25HT3, the population probably did not exceed seventy-five individuals, and the population of the remaining sites, also small, may not have exceeded that number.

3. The dwelling units were circular earth lodges, with a central fireplace, four to six center posts, closely set vertical wall posts, with an

entrance extending in a generally easterly direction. Houses were built nearly level with the surrounding ground level.

4. One of the sites, 25KX9, is on the flood plain of Ponca Creek, and may be a winter village. The remaining sites are on high promontories overlooking the Niobrara River.

5. There is no evidence for long occupation at any of the villages other than excessive posts in the houses, which may indicate reinforcement of older houses.

6. Camp sites of the Focus are on the middle reaches of the Niobrara River, and on the lower reaches of the Elkhorn River, as far as ninety miles from the earth-lodge villages.

7. Burials occur in the village areas. At 25KX9, an extended and supine position was used, and grave goods were left with the deceased.

8. The settlement patterns of these villages are not wholly inconsistent with historical accounts of Pawnee villages, but too little is known of the patterns of other local tribes to make specific identification on this line of evidence alone. The pottery from these sites, and the remaining inventory of material culture, suggest that the sites are related to the historic Pawnee.

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State Historical Society
of North Dakota.

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DISBURSEMENTS, 1956			
Publication No. 6	$ 93.00		
Postage	8.70		
Miscellaneous	3.00		
Publication No. 7 (estimated)	120.00		
Mailing Costs	10.00		
Total Disbursement		$231.00	
BALANCE, 1956		$ 5.00	
DEFICIT, 1956			$35.31

INTELLIGENCE TESTING IN A CROSS-CULTURAL SITUATION

Edward I. Fry

The Goodenough Draw-a-Man Test (Goodenough, 1926) of children's intelligence grew out of attempts to discover "the extent to which the nature of drawings made by children in their early years is conditioned by their intellectual development". (p. iii).

A drawing of a man was chosen as best meeting the criteria of familiarity, invariability, simplicity and interest. Through an analysis of over 3,500 drawings, 51 discriminate points were chosen on which the tests could be objectively scored.

The correlation of the Goodenough test with the Stanford-Binet (presumably the 1917 revision) is .763 and "significant correlations have also been obtained with other standardized intelligence tests." (p. 82)

Based on her extensive experiments with the test, Goodenough holds that it "forms a serviceable test of intellectual development, which is useful both for making comparisons between groups, and as a supplement to the usual type of intelligence test in the study of individual cases. It is particularly suitable for investigating the mentality of children from foreign homes or of deaf children." (p. 81)

Furthermore, the test, " . . . throws considerable light on the development of conceptual thinking in young children." (p. 82).

During the past ten years, there have been a number of studies using the Goodenough test. Kluckhohn and Leighton (1947), MacGregor (1946), Joseph, Spicer and Chesky (1949), and Thompson and Joseph (1944), used the test as one of a battery administered to Indian children by the Committee on Human Development of the United States Office of Indian Affairs and the University of Chicago.

Under this program, Goodenough IQs were calculated for the Navaho, Hopi, Zuni, Papago, Zia and Sioux tribes. In a summary article, Havighurst, Gunther and Pratt (1946) presented the results shown in table 1.

Table 1

	Hopi	Navaho	Zuni	Papago	Zia	Sioux
Number	78	47	42	74	32	53
Mean IQ	113.3	109.7	111.7	106.9	106.9	109.1
SD	17.4	16.3	20.7	20.6	16.3	16.9

In addition, data gathered from a group of midwestern white children (presumably for control purposes) gave the following results: Number 66; Mean IQ 101.2; SD 19.0.

Earlier studies using the Goodenough test by Dennis (1942) on the Hopi, Rohrer (1942) on the Osage, and Russell (1943) on the Zuni showed the following results:

	Hopi	Osage	Zuni
Number	152	125	41
Mean IQ	108.3	103.8	105.1
SD	23.3	21.2	16.4

Material and Methods

The present paper proposes to examine a series of 11 Goodenough protocols drawn by a group of Spanish-American children from Redford, Texas, and 20 Goodenough texts by children from the Forsyth Dental Clinic, Boston, Massachusetts. An intensive analysis of the tests will be undertaken in the effort to discover if there are any discernible and significant differences between the two groups, and if so, wherein these differences lie.

All tests were individually administered by the author, using Standard Goodenough instructions with modifications as follows: "I would like to have you draw me a picture of a man. Draw the best possible picture that you can of a man." Any questions from the subjects as to type of man, details of the drawing, etc., were answered with such noncommittal phrases as "It's up to you," or "Whatever you like." Encouragement was given to those children who seemed doubtful about taking the test or were slow in starting. In a few cases, the children were encouraged when they seemed to falter or displayed other difficulties with the test. In no case, however, was any direct suggestion given on any aspects of the drawing. Praise was limited to such things as, "You're doing fine." or "That looks like a good drawing." None of the children received negative comments about their drawings. If any doubt existed in the writer's mind as to the identification of some of the figures, the subject was questioned at the conclusion of the test as to the identity of the object or specific portions of the object. All drawings were made with a No. 2 (soft) lead pencil.

Redford

During the summer of 1949, Goodenough tests were administered to a group of 12 Spanish-American children ranging in age from 6 years 8 months to 14 years 5 months. (The 14 year 5 month subject was removed from the final scoring, since his age is well above the 13 year limit imposed by Goodenough). The tests were given as a part of a battery to some of the school children of Redford, Texas, a small farming village on the central section of the Rio Grande River. Of the 11 subjects used in the final tabulation, 7 were boys and 4 were girls.

The tests were administered on the standard Goodenough form, and were gathered under moderately good testing conditions. In most cases, they were given in the living room or on the porch of my chief informant, although a few were given in

the homes of the subjects. Prior to the Goodenough test, the children were given the Weigl-Goldstein-Scheerer Color Form Sorting Test (1941), which, since it involves playing with colored blocks, the Redford children seemed to enjoy and probably was an aid in reducing possible test tension.

Since Spanish is the first language of the children, instructions were given in Spanish by an interpreter who also interpreted the author's requests for vital stastic data.

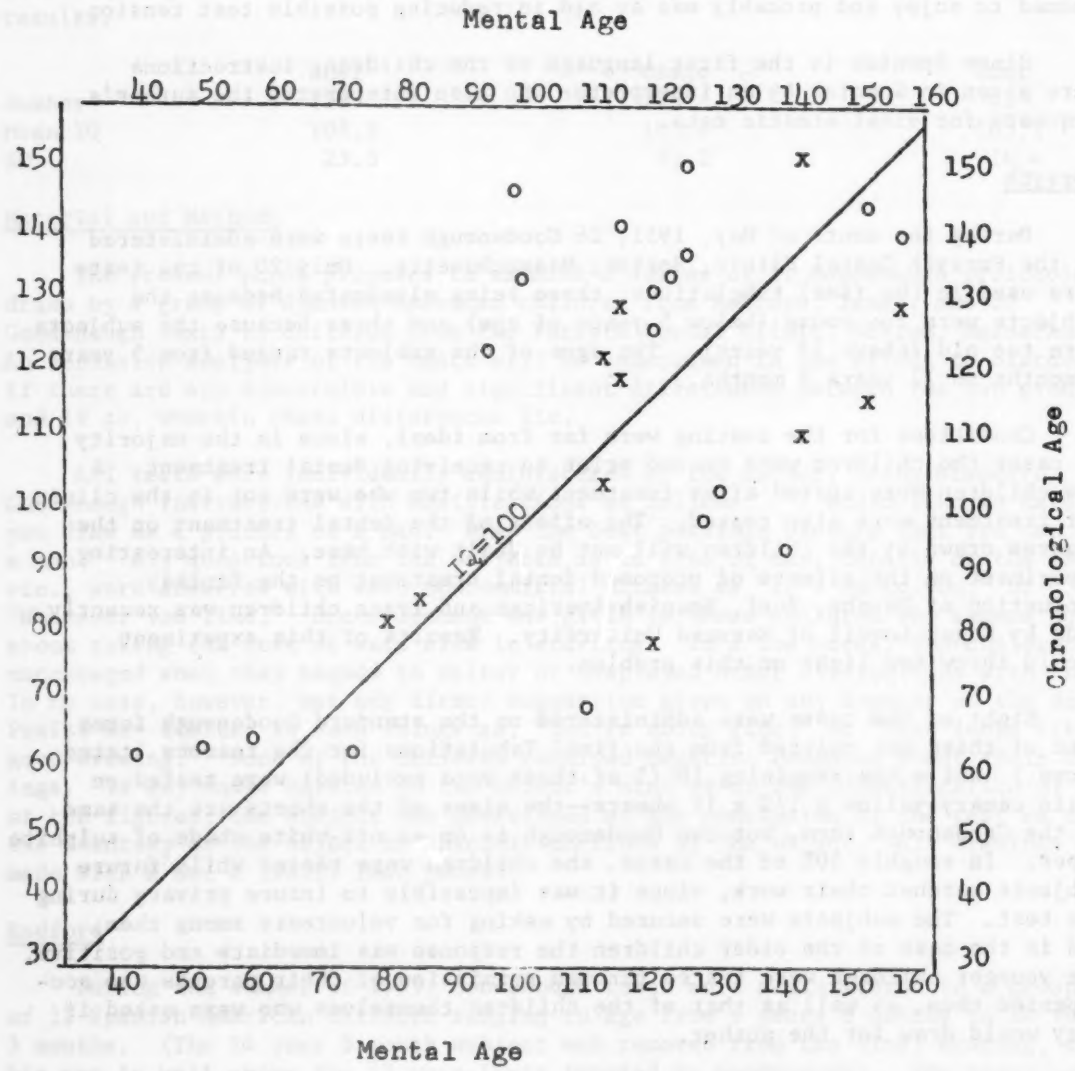
Forsyth

During the month of May, 1951, 26 Goodenough tests were administered at the Forsyth Dental Clinic, Boston, Massachusetts. Only 20 of the tests were used in the final tabulations, three being eliminated because the subjects were too young (below 5 years of age) and three because the subjects were too old (above 13 years). The ages of the subjects ranged from 5 years 2 months to 12 years 8 months.

Conditions for the testing were far from ideal, since in the majority of cases the children were tested prior to receiving dental treatment. A few children were tested after treatment while two who were not in the clinic for treatment were also tested. The effect of the dental treatment on the figures drawn by the children will not be dealt with here. An interesting experiment on the effects of proposed dental treatment on the fantasy production of Navaho, Zuni, Spanish-American and Texan children was recently made by Edgar Lowell of Harvard University. Results of this experiment should throw new light on this problem.

Eight of the tests were administered on the standard Goodenough forms (one of these was omitted from the final Tabulations for the reasons listed above.) While the remaining 18 (5 of these were excluded) were tested on plain canary-yellow 8 1/2 x 11 sheets--the sizes of the sheets are the same as the Goodenough form, but the Goodenough is on an off-white shade of sulphite paper. In roughly 50% of the cases, the children were tested while future subjects watched their work, since it was impossible to insure privacy during the test. The subjects were secured by asking for volunteers among them, and in the case of the older children the response was immediate and positive. The younger children were tested through permission of their parents who accompanied them, as well as that of the children themselves who were asked if they would draw for the author.

The children were tested on two occasions, the 5 year olds being tested at one time, and the older children at another. All instructions were given in English, since that is the native language of all of the children, although two of them spoke some Greek. Vital statistics were gathered from the parents of the 5 year olds, and directly from the older subjects.



o Forsyth

x Redford

All subjects to the right of the 100 IQ line have IQs above 100, all to the left have IQs below 100.

Figure 2

Of the 20 subjects used in the final tabulations, 10 were boys and 10 were girls. There were two pairs of siblings in the group, one brother-sister and one sister-sister combination.

Results

Figure 2, shows graphically the results of the test. Mental and chronological ages were calculated in terms of months, and then plotted in the graph, the abscissa being the mental age and ordinate the chronological age. The graph shows that 65% (13) of the Forsyth subjects had an IQ below 100, while only 56% (6) of the Redford subjects showed the same results. Conversely, the Redford subjects had 44% (5) and the Forsyth subjects 35% (7) above the 100 IQ level.

The mean chronological ages (in months) were 113.3 for Forsyth and 112.3 for Redford; mean mental ages were 105.3 and 120.0 respectively.

The Goodenough places a top limit of 13 years (156 months) on the mental ages of the subjects, and as the chart shows, there are two subjects who reached this level, one from each of the groups. Their IQs as measured by the test were 116 for the Forsyth subject and 119 for the Redford subject--their real IQ is unknown.

The mean IQ scores and standard deviations with their corresponding standard errors are presented in table 2.

Table 2

	Redford	Forsyth
Mean IQ	109.0±5.82	89.6±5.80
SD	18.4±3.90	25.3±4.00

The test for significance of the Redford and Forsyth means shows that they are not quite statistically significant (2.36).

In table 3 are shown the results of the two groups of each item scored on the test. The figures are given in raw frequencies and in percentages of the total response of the groups. The third column indicates the difference between the Forsyth and Redford scores, with an R indicating a positive difference in favor of the Redford group, and an F indicating a positive difference in favor of the Forsyth group. In 43% of the cases the advantage is with Forsyth, while in 49% of the cases it rests with Redford. The remaining 8% consists of those cases in which there was no difference between the two groups.

Table 3

No.	Item		Forsyth	Redford	D
1.	Head Present	No.	20	11	
		%	.041	.035	.006 F
2.	Legs Present		18	11	
			.038	.035	.006 R
3.	Arms Present		17	11	
			.035	.035	.000
4a.	Trunk Present		18	11	
			.038	.035	.003 F
4b.	Trunk Proportion		15	11	
			.031	.035	.004 R
4c.	Shoulders Present		14	7	
			.029	.022	.007 F
5a.	Attachment of		17	11	.007 F
	Limbs A		.035	.035	.000
5b.	Attachment of		16	9	
	Limbs B		.033	.029	.004 F
6a.	Neck Present		13	6	
			.027	.019	.008 F
6b.	Neck Outline		12	5	
			.025	.016	.009 F
7a.	Eyes Present		19	11	
			.039	.035	.004 F
7b.	Nose Present		17	10	
			.035	.032	.003 F
7c.	Mouth Present		17	10	
			.035	.032	.003 F
7d.	Features in		7	7	
	Two Dimensions		.014	.022	.008 R
7e.	Nostrils Shown		2	4	
			.004	.013	.009 R
8a.	Hair Present		13	9	
			.027	.029	.002 R
8b.	Hair Detail		1	3	
			.002	.009	.007 R
9a.	Clothing Present		16	9	
			.033	.029	.004 F
9b.	Two articles		10	7	
	non-transparent		.020	.022	.002 R
9c.	Entirely non-		6	5	
	transparent		.012	.016	.004 R
9d.	Four articles		6	3	
	shown		.012	.009	.003 F
9e.	Complete		0	1	
	costume		.000	.003	.003 R
10a.	Fingers Present		10	9	
			.020	.029	.009 R
10b.	Number Correct		2	1	
			.004	.003	.001 F
10c.	Detail Correct		5	2	
			.004	.006	.002 R
10d.	Thumb shown		5	0	

Table 3 (continued)

No.	Item	Forsyth	Redford	D.	
		.010	.000	.010	F
10e.	Hand Shown	8	5		
		.016	.016	.000	
11a.	Arm Joints	6	6		
		.012	.019	.007	R
11b.	Leg Joints	3	7		
		.006	.022	.016	R
12a.	Proportion:	12	8		
	Head	.025	.026	.001	R
12b.	Proportion	15	10		
	Arms	.031	.032	.001	R
12c.	Proportion:	14	11		
	Legs	.029	.035	.006	R
12d.	Proportion:	9	6		
	Feet	.018	.019	.001	R
12e.	Two Dimensions	13	8		
		.027	.026	.001	F
13	Heel	4	3		
		.008	.009	.001	R
14a.	Coordination:	18	6		
	Lines A	.038	.019	.019	F
14b.	Coordination:	5	6		
	Lines B	.010	.019	.009	R
14c.	Coordination:	5	6		
	Head	.010	.019	.009	R
14d.	Coordination:	9	4		
	Trunk	.018	.013	.005	F
14e.	Coordination:	6	5		
	Arms and Legs	.012	.016	.004	R
14f.	Coordination:	11	6		
	Features	.022	.019	.003	F
15a.	Ear Present	7	7		
		.014	.022	.008	R
15b.	Ear Detail:	3	5		
		.006	.016	.010	R
16a.	Eye Detail:	12	4		
	Brow	.025	.013	.012	F
16b.	Eye Detail:	5	2		
	Pupil	.010	.006	.004	F
16c.	Eye Detail:	6	4		
	Shape	.012	.013	.001	R
16d.	Eye Detail:	3	4		
	Glance	.006	.013	.007	R
17a.	Chin and Fore-	13	3		
	head Shown	.027	.009	.018	F
17b.	Chin and Fore-	6	1		
	head: Detail	.012	.003	.009	F
18a.	Profile A	1	1		
		.002	.003	.001	R
18b.	Profile B	0	0		
		.000	.000	.000	

The difference in scores on Table 3 ranged from .000 to .019%. A frequency distribution of the differences (Table 4) shows an uneven distribution, with the vast majority of the scores falling below .010%.

Table 4

Score Difference	Frequency
.000%	4
.001	7
.002	3
.003	8
.004	7
.005	1
.006	2
.007	4
.008	3
.009	6
.010	2
.011	0
.012	1
.013	0
.014	0
.015	0
.016	1
.017	0
.018	1
.019	1

If .009% is chosen as a critical point of difference between the scores, we find that significant differences are demonstrated on the following factors:

.009 -- Neck present; Neck outline; Nostrils shown; Fingers present; Coordination: Lines B; Coordination: Head; Chin and Forehead: Detail.
.010 -- Thumb shown; Ear Detail.
.012 -- Eye Detail: Brow
.018 -- Chin and forehead shown.
.019 -- Coordination: Lines A.

However, since in no case does the difference amount to as much as 2% of the total score of the group, we cannot conclude that there are any demonstrable differences in the scoring of any particular point. Moreover, the combined differences amount to only 14.3% for the Forsyth group and 13.4% for the Redford group (a difference of .09% between them on the total scoring.)

Thus, we are safe in saying that the two groups display little difference between them on the various factors which make up the scoring of the test.

Discussion

From the figures presented above, we can see that it is the total drawing, the Gestalt, which gives the child his score on the test and thus his IQ. Since the Redford subjects scored more points (Mean is 28.2) than the Forsyth subjects (Mean is 23.2), it is not due to their preponderance on any one of several points that they are superior, but rather on the total score of the drawing.

Our explanation of the cause or causes of the differences between the two groups must be sought in the personalities of the individuals and the culture in which they live. Havighurst et al (1946) concluded from their studies that: "The Draw-a-Man Test may be a useful test of one aspect of general intelligence, namely the ability to form concepts based upon observation. The children of certain Indian tribes are especially stimulated to observe the external world accurately and to form concepts of natural objects including the human body. Moreover, they are given plentiful opportunity and even encouraged or required to draw and paint these concepts." (p. 59).

In view of the widespread use of the Goodenough test, it is suggested that this hypothesis would bear further testing focused on: 1) The general problem of symbolic formation; 2) The specific problem of the observation abilities of different groups and their ability to reproduce these observations accurately. In this respect, due attention must be paid to Whorf's hypothesis that due to different languages, people observe things differently. (Whorf, 1940).

Summary

A small group of 11 Spanish American children from Redford, Texas, and 20 children from the Forsyth Dental Clinic, Boston, Massachusetts, were tested on the Goodenough Draw-a-Man Intelligence Test. The mean IQ of the Redford children was found to be 109.0 and of the Forsyth group to be 89.6. These differences are not quite statistically significant. Analysis of the test to determine the cause of the differences revealed that no item of the 51 points on which the test is scored, contributed as much as 2% to the total scoring. It was concluded that the differences in scores are due to the total effect of the picture which the child drew. The cause of the differences, then, is to be found in a more intensive analysis of the subjects and their cultural background.

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MAKING ACRYLIC CASTS OF MUSEUM SPECIMENS

Harold Janzen

Editor's Forenote:

The author of this article has spent some months developing techniques, and experimenting comparatively, with the various commercial products available, for making acrylic casts of specimens for the University of Nebraska State Museum. He has been primarily concerned with making casts of chipped stone artifacts, especially projectile points of diagnostic import from "Early Man" contexts.

Such casts have certain advantages over casts made in any of the plasters. First among the advantages is, of course, the fact that they reproduce minute details much more accurately. Secondly, acrylic casts are far more durable, an important advantage when they are to be used in classrooms. Finally, acrylic casts are much lighter in weight than plaster casts.

Mr. Janzen is reporting his own experiences. The paper constitutes a synthesis, and certain emendations, of the instruction sheets put out by the several manufacturers. His particular techniques produce satisfactory and economical results. It should be noted that after the casts have been prepared, they must be painted if it is intended that they fully duplicate the originals. (F. F.)

Preparation of Molds for Acrylic Castings

A useful liquid molding plastic for acrylic castings is the produce Castomold 150, sold by the Castolite Company, Woodstock, Illinois.

Castomold molds can be made in three ways -- dipping, brushing or pouring. Of these three methods, pouring the castomold over the pattern is the simplest and most satisfactory mold making process.

1. Fold a sheet of heavy aluminum foil in such a fashion as to form a tray large enough to hold the specimen which is to be cast, with a margin of not less than ½ inch all around the specimen. The specimen is then placed in this tray.

2. Castomold is poured into the tray containing the model, and the tray jarred to eliminate air bubbles. The castomold covered model is then placed in an oven and heated to from 150 to 200 degrees Fahrenheit for one-half hour or at 300 degrees Fahrenheit for a shorter time. (I am using an electric deep-fat fryer for an oven.)

3. Curing of the model is usually completed when a sharp needle inserted into the mold wall comes out clean. A mold which is not fully cured is not as tough and will break or split within a short time.

4. Upon the completion of the cure, the mold is taken from the oven, cooled, removed from the tray and turned over and replaced in the tray. Since the model has sunk to the bottom of the tray, the castomold wall will be very thin on the bottom and so this area needs another layer of castomold to thicken the mold wall to about 1/4 inch. This will again require curing in the oven. To eliminate this second cure, small strips of previously cured castomold may be placed in the bottom of the tray and the model placed on top of this, then proceed as in 2 above.

5. When the mold is completely cured, and thoroughly cooled throughout, the model is removed by cutting the mold to the model at an inconspicuous point. V-shaped channels are cut into the mold at points where air pockets might occur and also to allow a slight surplus of acrylic to take care of shrinkage while cooling.

6. This mold material is non-recoverable, but the ease of handling and the faithful reproduction of details and size make this material an ideal one for the casting of small reproductions.

Acrylic Casting

An acrylic which is simple to use is Gem-Coat polyester with catalyst DDM, sold by the Gem-O'-Lite Plastics Company, 5529 Cahuenga Boulevard, North Hollywood, California.

The estimated amount of polyester is poured into a paper drinking cup, a small amount of opaque pigment of the basic color of the specimen is added (powdered tempera colors can also be used) and then about 6 drops of catalyst per tablespoon of polyester is added. Thoroughly stir with a wooden stick to blend the color and then pour into the mold or use an eye-dropper to fill the mold.

Allow the filled mold to set until the gel stage is reached, (this takes about fifteen minutes) then place in an oven at about 200 degrees Fahrenheit for fifteen minutes to completely set the acrylic. The casting may be set aside overnight for the setting to be completed without the addition of heat.

When the casting is removed from the mold, there will be a small amount of trimming where the mold was cut, this trimming will snap off easily or can be cut off with a pocket knife.

By using a paper drinking cup and a wooden stick for mixing, there will be little clean-up required. Any clean-up that is necessary can be taken care of with acetone.

A FUNCTIONAL VIEW OF PEYOTISM IN OMAHA CULTURE

Malcolm J. Arth

Exactly when and under what circumstances peyote first was introduced into Omaha culture is not established although there is general agreement that it was about 1906-07. Likewise there is general concensus that the acquisition came via the Winnebago and/or the Otoe. During December 1955, the author was informed that the Omaha received peyote from the Winnebago on April 18, 1907. This information was conveyed during a business meeting of the Native American Church, and an elderly Omaha man at the meeting was identified as the sole survivor of the initial group that received it. A 50th anniversary celebration of this event, held on April 18, 1956, further substantiates the field report. In any event, the literature establishes that peyotism among the Omaha has been wide spread for many years. Gilmore (1912, p. 104) reports that by 1911 peyote had been adopted by half the tribe. Shonle (1925) places the incidence of Omaha peyotism in 1912 at 75 to 100%. In 1932 (p. 95) Margaret Mead writes that the "... peyote cult represent most closely the present-day religious faith of the majority of people". as recently as 1950 the Superintendent of the Indian agency for the Omaha estimated that at that time 90% of the on-reservation Omaha were consumers (Mimeographed statement). Field work by the author during the winter of 1955 revealed that peyote in the form of Native American Church meetings was still a vital force in the reservation area. 1

The aspects of Omaha peyotism discussed below are concerned with the questions of why the Omaha initially accepted peyote and particularly why its use persisted. The manifest functions of the peyote religion are extremely important. The religion is first and foremost an expression of the spiritual and aesthetic needs of many of the people, and moreover it has ascribed to its strong curative powers. Curing currently plays a major role in Omaha peyotism, and informants have expressed strong beliefs in its power to cure a variety of disorders ranging from a sore throat to tuberculosis. The literature substantiates this as a pattern in Omaha peyotism for at least several decades. If one accepts LaBarre's (1947) view that the main anxiety of the Plains peoples was centered on the question of survival, then one might ascribe acceptance of peyote to the fact that it functioned to alleviate this anxiety. Schultes(1938) maintains this position in explaining the relatively sudden acceptance of peyote by many Plains cultures. The current health level among the Omaha is extremely poor, there being a high rate of active tuberculosis, and this factor may be of extreme importance in explaining perpetuation as well as acceptance of peyote.

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1. Field work was sponsored by the Laboratory of Anthropology, University of Nebraska, and was directed by Professors John M. Roberts and John L. Champe

The highly elaborated vision-seeking pattern in Plains cultures may have predisposed many Plains peoples to acceptance of a vision-producing religion. This explanation is one of the best known and most widely voiced, hence is not elaborated here (see Shonle, 1925). One might argue then that the Omaha, a culture with such a predisposition, accepted peyote because of it. However, if the meetings in which the author participated were typical, it would not appear to be of prime importance for the Omaha today. At least it is not manifest. It may be that the element of vision-seeking was more important at the time of the adoption of peyote than it is in the current period of perpetuation.

The use of peyote is and has been opposed by most of the officials with whom the Omaha have dealings, and by many of the non-Indian residents of the Omaha community. The Omaha are not unaware of this anti-peyote feeling. Indeed, their defensiveness about its use indicates that they are acutely aware of it. Examples are found in stories told to the author about whites who have attended meetings and later ridiculed them, and frank statements by some Indians who oppose White attendance on general principle. By clinging to Peyote in the face of such opposition, the Omaha are indirectly expressing aggression against its opponents. This is a latent function, and no doubt informants would deny vehemently that they either take peyote or attend peyote meetings because it is opposed by such groups. Nevertheless, the view here is that such expression of hostility is both a part of the motivation for attending and a part of the satisfaction derived from attendance. There is almost a viciously circular element in this situation, for as LaBarre (1938, pp.93 ff.) has pointed out, the opposition by the non-Indian groups tends to create anti-White feelings among the Indians.

Another latent function is concerned with the generally "Indian" nature of the peyote religion. Although it is not a true nativistic movement in Linton's (1943) sense of the word (it lacks a manifestly anti-dominant-group theme), it is nevertheless a reaffirmation of in-group feelings and represents in part an attempt to recapture or to maintain the old way of life. In spite of the Christian elements in Omaha peyotism,[1] the fundamental value of the religion resides in its "Indian" nature. Informants feel, for example, it is better to hold meetings in the summer when a tipi can be used rather than in the winter when a frame building is necessary. The fire, the drum, the songs, sitting on the floor, and smoking--all demonstrate strong ties with the past.

Another aspect deriving from the the nature of the meeting is the cathartic effect of open confession of sin. LaBarre (1947)

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1. Examples are the crucifixes attached to peyote fans, and the figure of Jesus holding a peyote plant embroidered on the altar cloth. Prayers in the Omaha language are directed to the Father, the Son, and the Holy Spirit.

has called attention to this facet of peyotism and how it functions to alleviate individual anxiety. For certain individuals among the Omaha this may be the most crucial element and for others it may be of minimal concern. To what extent this is true, for this and each of the other functions discussed, should be studied.

A factor mentioned in passing by some writers, but seldom elaborated upon, is the recreational function of the peyote religion. To a community in which one must travel ten miles or more to see a motion picture, where the television or even radio are rarities, where leisure time is often spent in looking for something to do, peyote meetings offer a partial solution. The familiar sight of men loafing about the town center mutely attests to the absence of leisure-time facilities. A peyote meeting at least offers an opportunity for friends and neighbors to gather under the same roof, and though the night meeting is extremely staid, the morning and afternoon following are filled with light conversation, tension-relieving jokes, food, and stories. The meeting provides the individual with a place to go, with something to do, and affords the satisfactions to be derived from participation in any group ritual.

A final consideration notes the relative importance of peyote religion for the Omaha man. Mead (1932, pp. 133-134) calls attention to the fact that the role of the male suffered greatly in the process of acculturation:

> "The breakdown of culture is almost always of more vital concern to the men than to the women. The old religion, the old social values, the old braveries, and the old vanities may be taken away from the men, leaving them empty-brained and idle-handed, but the women must continue to bear and nurture children, to cook the dinner, sweep the house, and wash the clothes."

The Omaha male role, then lost both in power and in prestige under the impact of acculturation. It is suggested here that the peyote religion gives new psychological meaning, or more correctly perhaps, restores lost meaning, to the Omaha male role. Recall that almost all the major functionaries in a peyote service are men: the leader, the cedar-burner, the fireman, the policeman. Note how few women participate directly in meetings. In the Omaha meetings attended by the author, women were out-numbered eight to one and even when present they did not sing the peyote songs nor did they beat the drum.

The fact that women play a less important role in the peyote religion is not peculiar to the Omaha. Many other tribes restrict the degree to which women may actively participate. (See Malouf, 1942; Opler, 1938, and 1939). This is not to say, however, that in other tribes where this is so that the function is necessarily the same although it may well be in some cases.

Further evidence of the particular importance of the religion for Omaha men is illustrated in circumstances surrounding the author's establishment of rapport with the community. During the first weeks of field work, female-sponsored social gatherings were found to be relatively frequent. By attending such functions the author encountered many of the women in the community, as well as some of the men, and on the street had a nodding familiarity with these people. It was only after word got around that the author was to attend a peyote meeting that men in the community spoke spontaneously or talked over coffee in the town's store-cafe. The difference in rapport before and after actual participation in a meeting was equally striking, once again particularly with the men.

The several functions discussed probably do not have equal relevance for all age levels in Omaha culture. The vision-quest or prestige factors, for example, may have more pertinence for the older group whereas the recreational factor may have more significance for the younger. Certainly the several factors are not isolated within the culture. Each acts to reinforce the other, and it is this solidly reinforcing combination of functions that insures the position of peyotism and maintains it. Likewise, for a variety of individuals peyotism may satisfy a variety of individual needs. The peyote meeting offers the Omaha prayer for his soul, food for his stomach, health for his body, prestige, and self-expression. It allows for the venting of certain aggressive feelings and, to a degree, soothes the ever-present sense of cultural loss. Rather than asking the question why peyotism has persisted in Omaha culture, it would seem more pertinent to ask how it could possibly do otherwise.

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(1) (Wheeler, 1954: 8-9, Fig. 2) when author has not been named in text.
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Terminal citation of sources should be arranged alphabetically by author. Names of journals and institutions should be given in full. Name of the publisher as well as place of publication should be noted in the case of commercially published works:

Ewers, John C.

1939 Plains Indian Painting. Stanford University Press, Palo Alto.

Lehmer, Donald J.

1954 The Sedentary Horizon of the Northern Plains. Southwestern Journal of Anthopology, Vol. 10, No. 2, pp. 139-159.

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The North West Trade Gun John C. Ewers. Alberta Historical Review, Spring, 1956, Vol. 4, No. 2, pp. 1-7. Edmonton.

The Northwest Gun. Charles E. Hanson, Jr., Nebraska State Historical Society, Publications in Anthropology, No. 2. Lincoln, 1955.

Americanists with various interests will be grateful for these new sources of information concerning an important historic firearm which, when it became available through the trade, was quickly adopted by native peoples of North America. As Ewers remarks, no other article of the trader's stock was so keenly desired by these customers as was the gun. Among the various kinds of guns, perhaps none was as important to them as that now commonly referred to as the North West (or North-west) gun. The definition of the variety, however, has not been easy. Here are the specific criteria for the identification and understanding of such pieces. Whether these criteria will be fully supported and corroborated, upon review by other firearms experts (among which company this reviewer most certainly does not count himself), specific data for comparative purposes are now at hand. Further data and the comments of other specialists are now awaited with interest, since the materials in question are of major concern, particularly to archeologists and museum curators. Of these new publications, Ewers' briefer article concisely outlines the field and is the less technical; Hanson's complementary work presents the fuller documentation.

The North West gun, called by Ewers "the most typical Indian trade firearm of the northern Great Plains of the historic period prior to the widespread introduction of breech-loading rifles in the 1870's," was long thought to have received its name from the well-known fur-trade company of Montreal. Hanson cites contemporary allusions to show that such a name for a gun was actually in use prior to the organization of the famous competitor of the Hudson's Bay Company, and concludes that the name of the gun was originally "a tribute to the region of its destination rather than to any company." Ewers, on the other hand, shows that as late as 1798 the North West Company was specifying that its trade arms from London should be exactly the same as those of its competitor. The reader may infer that, as so frequently happens in such instances, the reason for the name of this gun is still shrouded in obscurity.

It has long been known that the original North West guns, whatever the reason for their name, were of English manufacture, and that they were then closely copied by American and other imitators. Now it appears that the English themselves merely copied and improved upon earlier pieces, of Dutch origin. (Surely, the way of the firearms expert is hard. Perhaps middle-western prehistorians may find comfort in the fact that even history is not always as simple as it has been written.) Some years ago Burton W. Thayer (1947 a,b) suggested means for distinguishing between authentic (i.e. English) originals and the equally authentic, if patently imitative,

non-English specimens also known. These suggestions are now considerably expanded and amplified by Hanson, employing evidence from what may be presumed to be a large number of specimens. Unfortunately for the specialist, Hanson is sometimes vague concerning the range or scope of his specific evidence from examination of specimens. It is to be inferred that the bulk of those seen by him (some of which are illustrated) are to be found in the newly-organized Museum of the Fur Trade, at Chadron, Nebraska, of which he is director. It would have been helpful to other specialists had he quantified his statements somewhat more fully, showing how many pieces of a particular sort he knew of, and the like. But these are the kinds of queries the specialists may ask; the general student should find the data of real assistance.

A very real interest in the ultimate origin or origins of surviving North West guns has, in part, overshadowed the topic of the ways in which these objects reached their ultimate consumers, though the latter topic would be of greater interest to the anthropologist, if a more difficult one than tracing individual manufacturers -- itself difficult enough, certainly, what with the infinite modifications that could be, and in many instances were, made by successors of the actual manufacturers. Hanson would have it that "Every 'Indian gun' was made up to serve a particular purpose for a particular customer and a complete identification should in the ultimate fix the name of the trader who sold it in a certain region during a definite period." Such, for the majority of these pieces, can scarcely be more than a vain hope, but the general nature of the conditions, conduct processes, and effects of the trade in guns would seem to require further attention than has yet been possible. The task would be far from easy, but it would offer some hope of better understanding of the role of this major (if not cataclysmic) factor in historic culture-change in native North America.

It may perhaps be suggested that the "identification" of North West guns -- which through the attention of Ewers and Hanson is now rendered easier than it has been -- is but one of several possible objectives in the study of such arms. The captious critic might even suggest that "identification" is but a necessary initial step, and may lead only into blind alleys. Such remarks are, of course, unfair to specialists. It now remains for others to concern themselves with the data here collected, and to attempt, if they can, to elucidate and illustrate more fully the significance of the data. Indeed, anthropologists and historians have thus far been slow to utilize for their own purposes the numerous specific data provided by specialists in our own material culture, such as the authorities on the history of firearms. One can hardly suggest, here, how such sources can be more fully exploited, but some attention to the matter seems to be in order.

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G. Hubert Smith
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SARCEE MISCELLANY: 1885

H. K. Cronk

The early settlers of the Canadian Prairies who had contact with the Indians are today few in number. As much information as possible should be obtained on the habits of the Indian they knew from those who are still available.

I wish to report two items of interest to anthropologists told to me by the son of the man who was Indian Agent to the Sarcee reserve in the 1880's.

The Sarcee women made flower pots for sale or trade in Calgary, and the method employed in making these pots should be recorded. The preparation of the clay is not remembered, but this man distinctly remembers the women rolling and patting the clay, as one does dough for a pie, to the required thickness and cutting it into strips, the width of which would be the height of the pot. A mold was made by wrapping grass around one arm, then covering this grass with a piece of moist leather or hide. The arm and mold was placed on the strip of clay and the clay wound around it. The edges were kneaded together and the union smoothed. A disc of clay was cut to form the bottom and this was attached in a manner similar to the joining of the edges of the body. The process after the withdrawal of the arm is not remembered, but it is possible that the grass and leather would act as a support while the pot was drying before being fired. It is also possible that further shaping followed the withdrawal of the arm. This description ought to be compared with that by Edward Sapir, 1923. (A Note on Sarcee Pottery, American Anthropologist, Volume 25, pp. 247-253.)

The second point of interest concerns one use of grooved "hammerstones". These were attached to a long thong sometimes fifteen feet in length, and used for close-in fighting or for stunning buffalo. The hammer was swung around the head and thrown with enough force to kill a man and at least stun a buffalo by striking it at the base of the skull.

Of passing interest is the fact that my informant has the scar of an arrow on his arm, received while carrying a message from the Royal North-west Mounted Police on the reserve to their headquarters in Calgary.

Saskatoon Archaeological
Society
Saskatoon, Saskatchewan

Frontier Photographer, Stanley J. Morrow's Dakota Years,
Wesley R. Hurt and William E. Lass, University of South Dakota
and University of Nebraska Press, 1956, 135 pp., 101 plates. $4.50.

Stanley J. Morrow, a contemporary of Brady and Jackson, has long been recognized as one of the most daring and energetic photographers of the Dakota frontier. Though a short biography of Morrow is included, this book is mainly concerned with the photographic record which Morrow made of life on the Plains in the period 1868-1883. The slim volume makes available to the general reader, in many instances for the first time, 97 of the 350 Morrow photographs in the collections of the W. H. Over Museum, University of South Dakota.

Numerous photographs of Plains Indians and Plains Indian life are included, as well as views of early Yankton, Vermillion, and Deadwood. There are also several shots of the Crook "Horsemeat March" of 1876 and the "Custer Reburial" expedition of 1877. Scenes of the great Missouri River flood of 1881 are most dramatic.

The text, which follows and in many instances refers directly to the photographs, is on the whole well and carefully written. Perhaps weakest is the chapter on the Plains Indians. Since it is this chapter which will probably be of greatest interest to the readers of this journal, a few of the errors contained in it are noted below:

pp. 62-63 The Indian pictured here is not a Dakota (Sioux), nor the father of Luther Standing Bear as Hurt indicates, but the famous Ponca chief Standing Bear. The Ponca chief is best remembered for having led a portion of his tribe back to Nebraska from Indian Territory after the Ponca Removal of 1877.

pp. 64-65 Chief Medicine Bear is not wearing a "vest" as Hurt states, but rather a shirt with decorated panels on the front, a common style of the Plains and Woodland tribes of that period. The most interesting features of this photograph, the bearskin cap and bearskin leggings with the feet and claws of the bear attached, indicating Medicine Bear's status as a shaman, are not mentioned.

pp. 66-67 Only one of the Oglala chiefs pictured in Figure 31 is wearing a hat, not both as Hurt implies. The other is wearing a headband or turban of strouding.

p. 67 and elsewhere The use of the pejorative term "squaw" by an anthropologist is lamentable.

p. 75 Hurt comments: "No pictures show the Fort Berthold Indians wearing the long braided hair typical of the Sioux Indians." Yet at the bottom of the page (Figure 52) we see Morrow's photograph of the "First and Second chiefs of the Mandans, Fort Berthold, summer of 1872." One of the Mandan chiefs wears his hair in long, otterskin wrapped, braids which reach nearly to his waist.

p. 77 Hurt includes the Iowa in the Thegiha (Dhegiha) group of Siouan speakers, omitting the Quapaw. Actually the Iowa are Chiwere speakers.

p. 78 Two views of "Antone (sic) chief of the Ponca half-breeds" are presented. One, Figure 58, is labeled correctly, the other (Figure 57) is labeled "Another Ponca warrior." Antoine wears the same turban and earrings (two pairs) in both pictures.

p. 81 Hurt notes that the Bannock "had adopted the white man's dress by 1878." This is a gross overstatement. Though made of trade cloth, both the man's shirt and the woman's dress pictured are of a slightly modified aboriginal cut. Furthermore, the necklaces and blankets worn by the two and the bandolier worn by the man can hardly be termed white man's dress.

Because of these, and other errors, this chapter should be used with a certain degree of caution.

Material in the other chapters seems to be quite accurate, and the numerous quotations from newspapers of the day convey much of the spirit of Morrow's era. The maps on the inner covers enable the reader to follow Morrow's peregrinations with ease. Historians and anthropologists alike will welcome this addition to the literature of the Plains.

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The Midland Discovery, A Report on the Pleistocene Human Remains from Midland, Texas. Fred Wendorf, Alex D. Krieger, and Claude G. Albritton, with a description of the skull by T. D. Stewart Austin, University of Texas Press, in co-operation with the Museum of New Mexico. 1955. 139 pp., 36 figures, $3.50.

This book is a full report of the first adequately documented discovery in America of pre-Altithermal human skeletal material suitable for osteometric analysis. As such it is an important contribution to Americanist studies, both in the field of physical anthropology and in archeology. The report may serve as a model for the scholarly analysis of Early Lithic finds, which so often consist, as in this case, of a relatively few scattered specimens, for many of which the stratigraphic context is not clear.

The book begins with an introduction setting forth the essential points of the Midland discovery, summarizing the theses presented in the rrport, and outlining a chronology of the work done. The body of the work includes sections under the following headings: Geographic description of the Midland area; Geology of Scharbauer site; Localities and their associated artifacts; Reconstructed history of the site; Some tentative correlations; Description of the human skeletal remains; Chemical analyses; and Conclusions. Seven tables give the descriptive data about the artifacts, and a series of appendices include faunal identifications, mineralogical and chemical analyses of sediments and bones, and E. H. Sellards' report on his later investigation of the site in 1955.

The Midland finds were made in 1953-55 in a series of blowouts at the Scharbauer site near the city of Midland, Texas. There are five superimposed strata of sand exposed in these blowouts. They are separated from one another by erosional unconformities, and have been numbered from bottom to top and also named according to the color of the sand of which they are composed. For purposes of this review we need mention only two of these sedimentary units. Unit 2 is the Gray Sand and is divided into lower and upper parts, called respectively Units 2a and 2b. Resting unconformably upon it is Unit 3, the Red Sand, which has a soil profile developed in its upper part. Bones of extinct horses and antelope were found in Unit 3.

The human skeletal material consists of parts of a skull, two rib fragments, and three metacarpals. Most of the pieces were found loose on the exposed surface of the Gray Sand, Unit 2, but a few were in situ in the upper part of this sand Unit 2b. Fluorine tests and an analysis of sand in the right internal auditory aperture of the skull further indicated that the skeletal material originated in Unit 2b. The skull is that of a dolichocranial female about 30 years of age. T. D. Stewart, who describes it and discusses its significance, notes a possible resemblance to Neumann's Otamid variety and to certain other presumably early Texas skulls.

A good many artifacts were found in the blowouts, and these are described and discussed in detail. All diagnostic specimens were surface finds. Lying on the exposed surfaces of Units 2 and 3. They include Folsom fluted points, a form of point called by the authors "unfluted Folsom" (about which more below), a Milnesand point, a Meserve point, and stemmed points of more recent varieties. There were also fragments of grinding stones and scattered hearthstones. The only diagnostic specimens found on both Units 2 and 3 were "unfluted Folsoms," all the others being on Unit 3 alone. The authors reason, on the basis of both field evidence and typology, that the materials on the surface of Unit 2 dropped there through removal of Unit 3 by eolian erosion, and that the soil zone at the top of Unit 3 represents a time of stability during which the earliest of the point types found thereon were made and used. The crux of the reasoning is that a point form as specific as the "unfluted Folsom" category most probably would not have persisted through all the time represented by the Red Sand of Unit 3, the erosional unconformity below it, and the soil zone in its upper part.

From this reasoning it appears that the Midland skull, in the Gray Sand of Unit 2b, is not only appreciably earlier than Folsom fluted points, but dates from a moist period separated from the later period of the Folsom points by a major time of arid climate represented by the Red Sand. The story of man in the Southern Plains thus is taken back before the time of the last Wisconsin pluvial to an earlier pluvial period which the authors do not name, but which in the reviewer's mind suggests the Cary sub-age of the Wisconsin.

The "unfluted Folsom points" which were found on Units 2 and 3 are delicate points with parallel sides and concave bases. They resemble Folsom fluted points in outline, particularly in respect to the bases which are deeply indented, flanked by "ears" and often with a "nipple" in the center. On Folsom fluted points this "nipple" seems to be a striking platform prepared for the removal of the flute flakes. On the "unfluted Folsoms," however, there are no flutes; indeed, the specimens are too thin for the removal of flute flakes. These points also bear some resemblance to Plainview points, but are distinctly smaller and more delicate than the latter, and the bases are more deeply concave. The authors call them "unfluted Folsoms" because of their resemblance to Folsom fluted points in outline and size, and because of frequent association of points of this form with Folsom fluted points in surface sites in the southern Plains.

The case for the relationship of these points to Folsom fluted points is well made, and it seems safe to infer that there are fluted and unfluted variations within a general Folsom point-making tradition. The Folsom tradition, moreover, is not the only one in which the authors recognize significant variation. They use Sellards' term "Milnesand points" to apply to points which would ordinarily be classed as Scottsbluff points but are unshouldered. The historical

significance of these variations in the Folsom and Scottsbluff categories remains to be determined, but the fact that they exist is an important piece of evidence. It seems to the reviewer that in recognizing these variations and in giving them names, the authors have done a real service by hastening the day when point categories will no longer be handled as static entities. As evidence accumulates, we should be able to make more effective use of these categories by treating them as ranges within a continuum. Certain of these ranges may represent relatively stable patterns, as in the case of the Folsom fluted point; but even in this case there is a considerable variation and the descriptive limits of the Folsom fluted category have never been set. We already have point "types" which grade into one another, as in the familiar case of the Scottsbluff and Eden point categories and now in the added cases of fluted and unfluted Folsom points, and Scottsbluff and Milnesand points. As greater understanding is gained of the significance of these shifts from one pattern to another, more effective use can be made of early projectile points as indicators of chronological position, typological relationship, and culture type. We should then be well on the way toward constructing a meaningful culture history of the Early Lithic period in the Great Plains. The discussions of projectile point categories in The Midland Discovery constitute an important basic step in this direction.

Throughout this report the authors have maintained a clear distinction between evidence and inference, and have shown real skill in critical organization and analysis of the evidence to make a consistent historical picture. They and the University of Exas Press are to be congratulated for publishing a columinously illustrated, detailed report so soon after the data were gathered.

It is also gratifying to hear that Wendorf is continuing the excavations at the Scharbauer site, and that announcements of further finds are to be expected.

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